

## PROJECT DESCRIPTION

## I. GENERAL

THIS PROJECT INVOLVES THE RECONSTRUCTION OF THE EXISTING TRAFFIC SIGNAL AND THE CHANGE OF LEFT TURN MOVEMENT AT THE INTERSECTION OF US 1 (BELAIR ROAD) AND DUNFIELD ROAD/ RAMP FOR MD 43 IN BALTIMORE COUNTY. THIS INTERSECTION IS INCORPORATED IN THE US 1 SIGNAL SYSTEM. STREET LIGHTING IS EXISTING. THE ROUTE SIGNS AND THE STREET NAME SIGNS WILL BE REPLACED.

US 1 (BELAIR ROAD) IS ASSUMED TO TRAVEL IN A NORTH-SOUTH DIRECTION.

## II. INTERSECTION OPERATION

THE INTERSECTION SHALL OPERATE A SEVEN-PHASE, FULL-TRAFFIC-ACTUATED MODE WITH AN EXCLUSIVE LEFT TURN FOR THE NORTHBOUND US 1 WITH DETECTION PROVIDED BY VIDEO CAMERA AND QUEUING LOOP. MD 43 RAMP AND DUNFIELD ROAD HAVE EXCLUSIVE/PERMISSIVE LEFT TURNS WITH DETECTION PROVIDED BY VIDEO CAMERAS. EASTBOUND DUNFIELD ROAD HAS AN EXCLUSIVE/PERMISSIVE RIGHT TURN THAT OPERATES AN OVERLAP MOVEMENT WITH PHASE 1 AND PHASE 4.

A PUSH BUTTON ACTUATED PEDESTRIAN MOVEMENT TO CROSS THE NORTH LEG OF US 1 WILL OPERATE WITH PHASE 8.

VIDEO CAMERAS PROVIDE DETECTION FOR SAMPLING STATIONS ON BOTH LEGS OF US 1. MICRO LOOP PROBES PROVIDE THE ADVANCE DETECTION ON US 1. AN EXISTING RED LIGHT CAMERA SYSTEM SHALL BE MAINTAINED FOR SOUTHBOUND OF US 1. THE INTERCONNECT CABLES AND THE RED LIGHT SYSTEM SHALL BE RE-ROUTED TO THE PROPOSED CABINET LOCATION.

A SOLID STATE EIGHT-PHASE, FULLY-TRAFFIC-ACTUATED CONTROLLER WITH 2 FOUR-CHANNEL AMPLIFIERS, CAMERA INTERFACE, INTERCONNECT AND RED LIGHT CAMERA SYSTEMS, WITH ALL NECESSARY EQUIPMENT HOUSED IN A SIZE '6' BASE MOUNTED CABINET SHALL BE INSTALLED AT THE INTERSECTION.

## III. SPECIAL NOTES:

REFERENCE THE GENERAL NOTES ON THE PLAN.

## EQUIPMENT LIST "A"

## A. EQUIPMENT TO BE SUPPLIED BY THE SHA AND INSTALLED BY THE CONTRACTOR.

## ITEM NO. QUANTITY DESCRIPTION

9000	1 EA	SOLID STATE, FULL- TRAFFIC- ACTUATED, EIGHT-PHASE CONTROLLER WITH 2 FOUR-CHANNEL AMPLIFIER, CAMERA INTERFACE AND ALL NECESSARY EQUIPMENT HOUSED IN SIZE '6' BASE MOUNTED CABINET.
9022	2 EA	27' STEEL POLE WITH 50' MAST ARM (NOTE: THE 4 - 1 3/4" X 90" ANCHOR BOLTS SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR.
9026	1 EA	27' STEEL POLE WITH TWIN 50' X 60' MAST ARMS (NOTE: THE 4 - 2" X 90" ANCHOR BOLTS SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR)
9570	62 SF	SHEET ALUMINUM FOR GROUND MOUNTING SIGN
	2 EA	R3-9 "WRONG WAY" (36" X 24")
	1 EA	R3-7(L) "LEFT TURN MUST TURN LEFT" (30" X 30")
	4 EA	R3-7 (FYG) "PEDESTRIAN CROSSING" SYMBOL (30" X 30")
		NOTE: RELOCATE 1 EA "LEFT TURN MUST TURN LEFT" (30" X 30") PAY ITEM INCLUDED IN ITEM NO. 8054 ON 'B' LIST.
9571	90 SF	SHEET ALUMINUM FOR OVERHEAD MOUNTING SIGN
	2 EA	R3-1(L) "NO LEFT TURN" (24" X 24")
	2 EA	R3-1(R) "NO RIGHT TURN" (24" X 24")
	1 EA	R3-5 "STRAIGHT THROUGH ONLY" (30" X 36")
	1 EA	R3-5L "LEFT TURN ONLY" (30" X 36")
	2 EA	R10-12 "LEFT TURN YIELD ON GREEN" (36" X 42")
	1 EA	R10-5 "LEFT ON GREEN ARROW ONLY" (24" X 30")
	2 EA	D3-2 "ARROW, Dunfield RD/ Dunfield RD, ARROW" (VARIABLE X 16") DUAL FACED
	2 EA	M95-1 "ROUTE ASSEMBLY" (72" X 24")
		NOTE: RELOCATE 1 EA "BUS STOP" (42" X 24") PAY ITEM INCLUDED IN ITEM NO. 8055 ON 'B' LIST.

## PROJECT CONTACTS

CONTACT PERSONS FOR DISTRICT 4 ARE AS FOLLOWS:

MR. RANDALL SCOTT  
ASSISTANT DISTRICT ENGINEER  
TRAFFIC - 410-321-2781

MR. DANIEL WITT  
ASSISTANT DISTRICT ENGINEER  
CONSTRUCTION - 410-321-2821

MR. STEVE MARCISZEWSKI  
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ASSISTANT DISTRICT ENGINEER  
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CONTACTS FOR OFFICE OF TRAFFIC AND SAFETY:

MR. RICHARD DAFF SR.  
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MR. ROBERT SNYDER  
ASSISTANT DIVISION CHIEF,  
TRAFFIC OPERATIONS DIVISION  
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410-787-7652

MR. DERRICK DICKERSON  
PROJECT MANAGER - TRAFFIC  
ENGINEERING DESIGN DIVISION  
410-787-5856

## EQUIPMENT LIST "B"

## B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR:

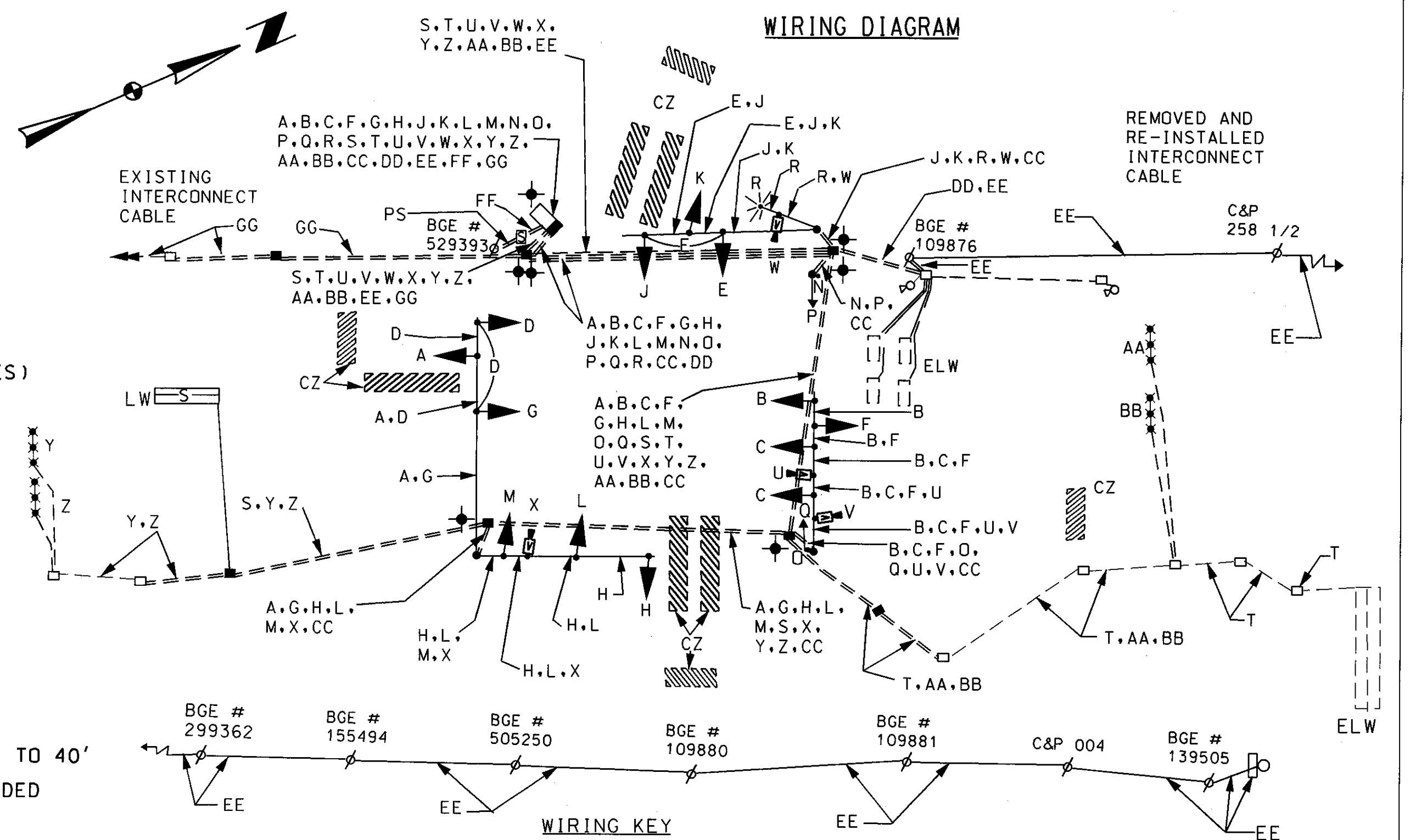
ITEM NO.	QUANTITY	DESCRIPTION
1001	3 EA	MAINTENANCE OF TRAFFIC
2001	3 CY	CLASS 2 EXCAVATION
2002	3 CY	TEST PIT EXCAVATION
5001	90 LF	REMOVAL OF EXISTING PERMANENT PAVEMENT LINE MARKINGS (ANY WIDTH)
5002	17 EA	REMOVAL OF EXISTING PAVEMENT MARKING ARROWS AND LETTERS
5005	140 LF	12" WHITE HEAT APPLIED PERMANENT PAVEMENT MARKINGS
5007	4 EA	HEAT APPLIED WHITE PERMANENT PREFORMED PAVEMENT MARKING LETTERS
5008	2 EA	HEAT APPLIED WHITE PERMANENT PREFORMED PAVEMENT MARKING ARROWS
5009	90 LF	5" WHITE HEAT APPLIED PERMANENT PAVEMENT MARKINGS
6001	20 LF	DEPRESS CURB AND GUTTER
6004	230 SF	4" SIDEWALK
8001	13 CY	CONCRETE FOUNDATION
8008	1 EA	CONTROL CABLE, 200' VIDEO DETECTOR CAMERA TO CONTROLLER
8009	2 EA	CONTROL CABLE, 300' VIDEO DETECTOR CAMERA TO CONTROLLER
8010	1 EA	CONTROL CABLE, 400' VIDEO DETECTOR CAMERA TO CONTROLLER
8013	3 EA	INSTALL STEEL POLE WITH SINGLE OR TWIN MAST ARMS (NOTE: FOUR-2" X 90" AND EIGHT-1 3/4" X 90" ANCHOR BOLTS SHALL BE REQUIRED)
8018	1 EA	10' PEDESTAL POLE WITH BREAKAWAY BASE (NOTE: 4-1" X 40" ANCHOR BOLTS)
8019	1 EA	REMOVE AND DISPOSE OF EXISTING EQUIPMENT
8024	2340 LF	DISCONNECT, PULL BACK AND RE- ROUTE CABLES
8027	38 LF	4" X 4" WOOD SUPPORTS
8029	250 LF	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
8032	30 LF	3" ELECTRICAL CONDUIT- GALVANIZED RISER
8036	150 LF	4" SCHEDULE 80 PVC CONDUIT- BORED
8037	8 LF	2" SCHEDULE 80 PVC CONDUIT - TRENCHED
8038	335 LF	3" SCHEDULE 80 PVC CONDUIT- TRENCHED
8039	100 LF	4" SCHEDULE 80 PVC CONDUIT- TRENCHED
8042	405 LF	4" SCHEDULE 80 PVC CONDUIT- SLOTTED
8043	28 LF	1" LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DETECTOR SLEEVE
8044	1 EA	METERED SERVICE PEDESTAL
8046	30 LF	ELECTRICAL CABLE 1-CONDUCTOR NO.4 AWG, THHN/THWN (3 WIRES)
8049	4 EA	MIRCO LOOP PROBE, 1000' LEAD-IN CABLE
8052	7 EA	ELECTRICAL HANDHOLE
8054	73 SF	INSTALL GROUND MOUNTED SIGNS
8055	93 SF	INSTALL OVERHEAD MOUNTED SIGNS
8056	4 EA	VIDEO DETECTOR CAMERA
8067	1280 LF	12-PAIR COMMUNICATION CABLE SELF-SUPPORTING OVERHEAD
8069	1 EA	250 WATT HPS LAMP AND LUMINAIRE
8073	7 EA	GROUND ROD (3/4" DIA X 10' LENGTH)
8074	9 EA	8" VEHICULAR TRAFFIC SIGNAL HEAD SECTION
8075	40 EA	12" VEHICULAR TRAFFIC SIGNAL HEAD SECTION
8078	1 EA	CUT, CLEAN GAL. AND CAP POLE CONSTR. DETAIL 'B' FROM 50' TO 40'
8080	1300 LF	ELECTRICAL CABLE 2- CONDUCTOR NO.14 AWG, ALUMINUM-SHIELDED
8081	400 LF	ELECTRICAL CABLE 2- CONDUCTOR NO.14 AWG
8082	415 LF	ELECTRICAL CABLE 3- CONDUCTOR NO.14 AWG
8083	1310 LF	ELECTRICAL CABLE 5- CONDUCTOR NO.14 AWG
8084	2110 LF	ELECTRICAL CABLE 7- CONDUCTOR NO.14 AWG
8085	215 LF	ELECTRICAL CABLE 2- CONDUCTOR NO.12 AWG, TC
8086	310 LF	LOOP WIRE NO. 14 AWG ENCASED IN FLEXIBLE TUBING
8087	95 LF	SAWCUT FOR SIGNALS
8088	2 EA	PUSHBUTTON AND SIGN
8089	1 EA	15' LIGHTING ARM ON SIGNAL STRUCTURE
8094	1 EA	INSTALL CONTROLLER AND BASE MOUNTED CABINET (NOTE: THE INTERCONNECT CABLE AND THE RED LIGHT CAMERA SYSTEM SHALL BE RE-ROUTED TO THE PROPOSED CONTROLLER CABINET.)

## EQUIPMENT LIST "C"

SHA FORCES SHALL REMOVE THE CONTROLLER AND ALL AUXILIARY EQUIPMENT FROM THE CONTROLLER CABINET. THE CABINET AND ALL OTHER MATERIALS TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

## PROPOSED PHASING

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Phase 1 & 6	◀G-◀	◀G-◀	G	G	R	R	R	R	R	R	R	R	R	B	DW
1 & 6 Change	◀Y-◀	◀Y-◀	G	G	R	R	R	R	R	R	R	R	R	B	DW
Phase 2 & 6	◀R-◀	◀R-◀	G	G	G	G	G	R	R	R	R	R	R	R	DW
2 & 6 Change	◀R-◀	◀R-◀	Y	Y	Y	Y	Y	R	R	R	R	R	R	R	DW
Phase 3 & 7	◀R-◀	◀R-◀	R	R	R	R	R	◀G-◀	◀G-◀	R	◀G-◀	◀G-◀	R	R	DW
CHANGE			MAY SKIP TO PHASES 3 & 8; 4 & 7; 4 & 8.												DW
Phase 3 & 8	◀R-◀	◀R-◀	R	R	R	R	R	◀G-◀	◀G-◀	G	R	R	R	R	DW
8 Change	◀R-◀	◀R-◀	R	R	R	R	R	◀Y-◀	◀Y-◀	G	R	R	R	R	DW
Phase 4 & 7	◀R-◀	◀R-◀	R	R	R	R	R	R	R	◀G-◀	◀G-◀	◀G-◀	◀G-◀	R	DW
7 Change	◀R-◀	◀R-◀	R	R	R	R	R	R	R	◀Y-◀	◀Y-◀	◀Y-◀	◀Y-◀	R	DW
Phase 4 & 8	◀R-◀	◀R-◀	R	R	R	R	R	G	G	G	G	G	G	G	DW
4 & 8 Change	◀R-◀	◀R-◀	R	R	R	R	R	Y	Y	Y	Y	Y	Y	Y	DW
Phase 4 & 8 ALT	◀R-◀	◀R-◀	R	R	R	R	R	R	R	R	R	R	R	R	FL/WK
PEDESTRIAN CLEAR	◀R-◀	◀R-◀	R	R	R	R	R	G	G	G	G	G	G	G	FL/DW
4 & 8 ALT Change	◀R-◀	◀R-◀	R	R	R	R	R	Y	Y	Y	Y	Y	Y	Y	DW
Flashing Operation	FL/R	FL/R	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK



A, B, C, D, E	5-CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)	U, V - CAMERA WITH 300' LEAD CABLE TO CONTROLLER	DD - PULLED BACK CAMERA AND LOOP CABLES TO BE REROUTED	PS - UNDERGROUND SERVICE FEED BGE POLE # 529393
F, G, H, I, J, K, L, M	7-CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)	W - CAMERA WITH 200' LEAD CABLE TO CONTROLLER	EE - 12-PAIR COMMUNICATION CABLE SELF-SUPPORTING OVERHEAD	[S] - METERED SERVICE PEDESTAL
N, O	2-CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)	X - CAMERA WITH 400' LEAD CABLE TO CONTROLLER	FF - 1-CONDUCTOR ELECTRICAL CABLE (NO. 4 AWG)-THHN/THWN (3 WIRES)	CZ - CAMERA DETECTOR ZONE
P, Q	3-CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)	Y, Z - MIRCO LOOP PROBE SET, AA, BB 1000' LEAD IN CABLE	GG - EXISTING 12-PAIR COMMUNICATION CABLE TO BE RE-ROUTED	◆ - GROUND ROD
R	2-CONDUCTOR (NO. 12 AWG) TRAY CABLE			
S	2-CONDUCTOR (NO. 14 AWG) ALUMINUM SHIELDED CABLE	CC - NO.6 AWG STRANDED BARE COPPER GROUND WIRE		
T	2-CONDUCTOR (NO. 14 AWG) ALUMINUM SHIELD, SPICED TO EXISTING LOOP WIRE			
LW	LOOP WIRE CABLE NO. 14 AWG			
ELW	EXISTING LOOP WIRE			



MARYLAND DOT - STATE HIGHWAY ADMINISTRATION  
Office of Traffic & Safety

TRAFFIC ENGINEERING DESIGN DIVISION

GENERAL INFORMATION SHEET  
U.S. 1 (BELAIR ROAD) AND  
MD 43 RAMP "B" / DUNFIELD ROAD

DRAWN BY: EMM	F.A.P. NO. S.H.A. NO.	AT3575185	TS NO. 1171G	SHEET NO. 2 OF 2
CHECKED BY: EMM, TH	COUNTY: BALTIMORE	LOG MILE: 03000106.28	T.J.M.S. NO. G348	
SCALE: NOT TO SCALE	DATE: 9/14/2004			